

May 17, 1949.

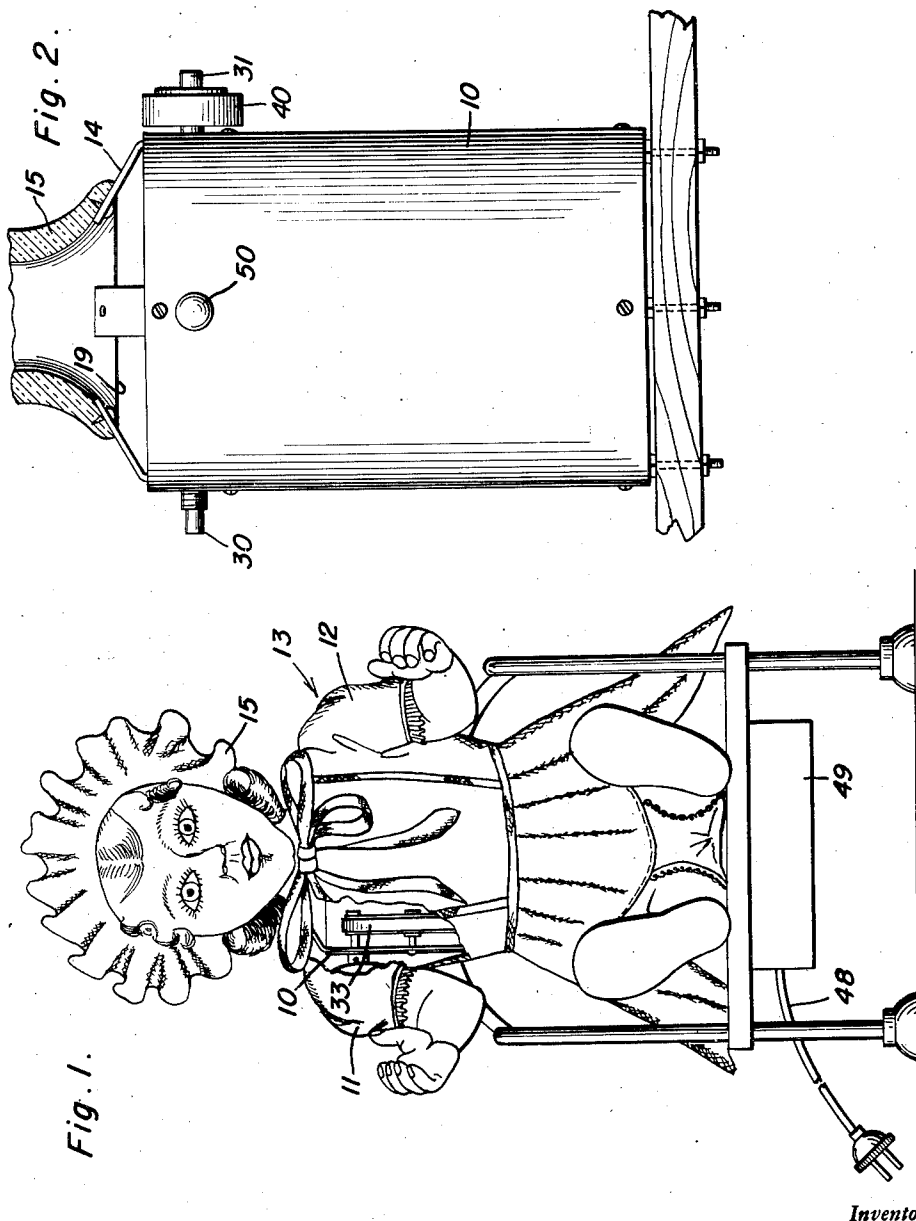
W. J. WALDRON

2,470,384

DOLL OR TOY FIGURE WITH ENCASED RADIO APPARATUS

Filed Nov. 29, 1948

2 Sheets-Sheet 1



Inventor

Walter J. Waldron

By

Clarence A. O'Brien
and Harvey B. Jackson
Attorneys

May 17, 1949.

W. J. WALDRON

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DOLL OR TOY FIGURE WITH ENCASED RADIO APPARATUS

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2 Sheets-Sheet 2

Fig. 3.

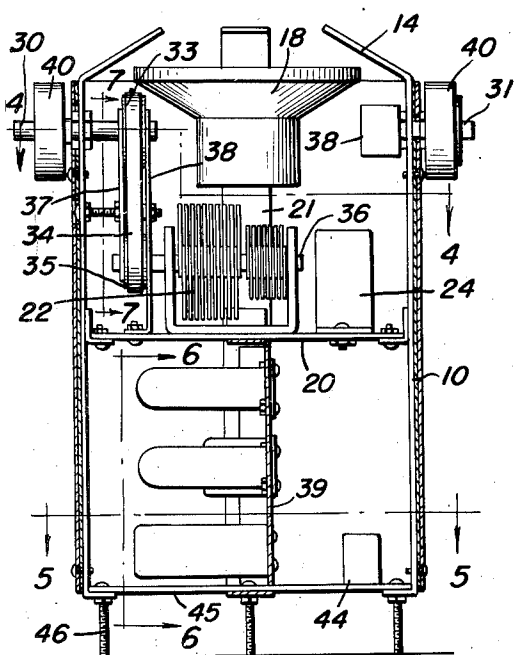


Fig. 4.

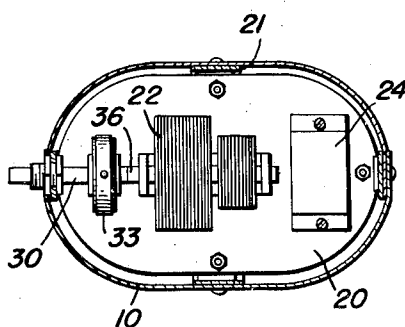


Fig. 5.

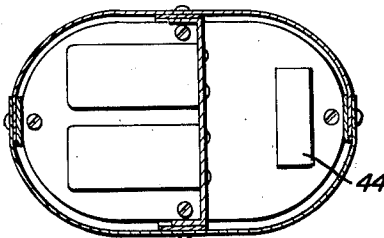


Fig. 8.

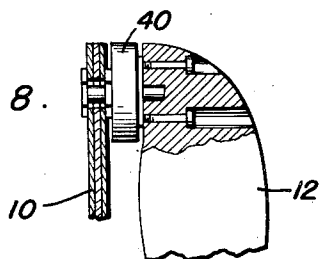


Fig. 6.

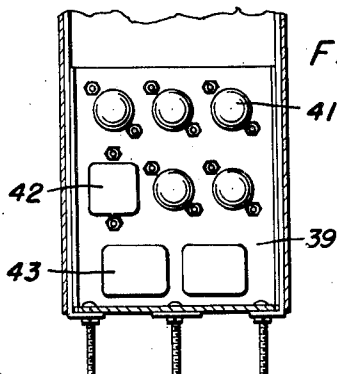
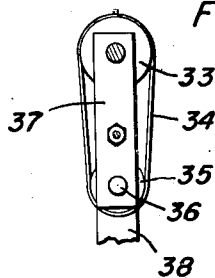


Fig. 7.



Inventor

Walter J. Waldron

By

Alance A. O'Brien
and Harvey B. Jacobson
Attorneys

UNITED STATES PATENT OFFICE

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DOLL OR TOY FIGURE WITH ENCASED
RADIO APPARATUS

Walter J. Waldron, Pomona, Calif.

Application November 29, 1948, Serial No. 62,584

4 Claims. (Cl. 250-14)

1

This invention relates to a so-called radio figure, comprising an encasing body which may be given the appearance of a doll or of any other figure used as a toy or for decorative purposes.

The main constructive difficulties encountered in connection with radios which are encased within the body of a doll or toy figure consist in the arrangement of the various parts of the radio which have to be placed within a substantially cylindrical cage or body, the base of which consists of an ellipse, an oval or an ovoid. Further difficulties consist in the arrangement of the loudspeaker which has to be placed in such a way that the openings from which the sound emanates are inconspicuous so that they do not interfere with the finished exterior or the looks of the doll or toy figure. A further difficulty consists in the arrangement of the controls operating the tuning condenser, the volume control and the like which should be readily and permanently accessible, but should not interfere with the appearance and looks of the doll or toy figure.

According to the invention, these difficulties are overcome by placing the controls for the tuning condenser and for the volume control, which are the main controls of the radio set, approximately at the top or near the top of the cylindrical casing, in line with each other at diametrically opposite points of the casing. The loudspeaker is turned upwardly and is placed between these two controls. Moreover, according to the invention, the cylinder is subdivided by a horizontal shield or platform arranged approximately at half length of the cylindrical casing which shield or platform serves to produce two compartments. The lower compartment is again subdivided by a vertical deck or shield. This arrangement produces not only suitable decks for the tubes, the intermediate frequency transformers and other component parts, but it also provides an upper compartment in which the tuning condenser, the output transformer and the volume control may be placed. The two coaxially located aligned controls at diametrically opposite points of the cylindrical body are located at the place at which the arms of the doll or toy figure are hinged to the body and these arms may therefore be used to move the controls. The loudspeaker whose mouth piece is upwardly directed emits its sounds through the head of the doll or figure which is preferably mounted on the upper part of the cylindrical body and which thus serves as a resonator or sound conducting body. The upper part of the head may be provided with openings which are suitably

2

covered either with hair or with a bonnet carried by the head of the doll.

Preferably the doll is seated in a chair provided with a box through which the cable for the supply current may enter. The seat may also contain the antenna, if a loop antenna is to be used.

It is therefore an object of the present invention to so arrange a radio apparatus, which may be of the heterodyne or any other multiple tube type that it will fill a space encased within a substantially cylindrical body of elliptical, oval or ovoid cross section which may be surrounded by a doll or by a similar toy figure.

It is a further object of the invention to provide a substantially cylindrical body of elliptical, oval or ovoid cross section which is subdivided by a horizontal deck at right angles to the cylinder axis, approximately bisecting the cylinder and carrying, in the upper compartment formed by said deck, the components which are adjustable as well as those which are connected with the loudspeaker while the lower compartment formed below the horizontal deck is subdivided by a vertical deck carrying the tubes and the intermediate frequency transformers, as well as the filters and other components.

It is a further object of the invention to provide, in a radio encased within a cylinder which is contained within or forms the body of a doll or another toy figure, radio control shafts for the two main radio controls, arranged coaxially at diametrically opposite sides of the cylindrical body encasing the radio, said shafts pointing in opposite directions and projecting from the cylindrical body in order to be used as the joints for joining the arms of the doll or toy figure to its body.

It is a further object of the invention to connect the arms of the doll or toy figure encasing the radio with the above mentioned shafts so that they may be used as control handles.

It is a further object of the invention to arrange, in radios encased within a cylindrical body contained within or forming the main body of a doll or toy figure, a loudspeaker in the space between the two aforesaid control shafts with the flaring mouth of the loudspeaker directed upwardly, the head of the doll or toy figure being fixed to the cylindrical body above the loudspeaker and being used as a sound box from which the sound emanates.

Further and more specific objects will be apparent from the following detailed specification.

The invention is illustrated in the accompanying drawings showing one embodiment thereof.

It is however to be understood that this embodiment is shown by way of example only, in order to be able to explain the principle of the invention and the best mode of applying the principle. The specification and drawing will supply the expert skilled in the art with information sufficient to apply the principle of the invention under different conditions or in a modified manner and modifications of the embodiment shown in the drawings do not therefore necessarily constitute a departure from the essence of the invention.

In the drawing:

Figure 1 is an outside view of the doll figure encasing the radio with parts of the figure being broken away in order to show the connection with the interior.

Figure 2 is an elevational side view of the cylindrical body which is contained within or forms the main body of the doll or toy figure.

Figure 3 is a sectional elevational view through the radio apparatus, the section being taken along a plane of symmetry.

Figure 4 is a sectional plan view through the apparatus, the section being taken along line 4-4 of Figure 3.

Figure 5 is a sectional plan view of the radio apparatus, the section being taken along line 5-5 of Figure 3.

Figure 6 is a fragmentary sectional elevational view of the apparatus, the section being taken along line 6-6 of Figure 3.

Figure 7 is a divisional side view of details.

Figure 8 is a partly sectional fragmentary view of a detail.

The radio apparatus shown in the drawings is encased within the figure of a doll seated in a chair. The figure 13 may have any suitable shape, as will be clear; it may be a toy figure, or a decorative figure such as used for carrying a lamp or the like. The sole condition which has to be fulfilled is that the upper portion of the body of the doll or figure must either accommodate or must be formed by the cylindrical body or case 10 which has an elongated, elliptical, oval or ovoid cross section. The doll or toy figure has preferably moving arms 11, 12 articulated to the body of the figure close to the upper edge of said cylindrical casing 10 in a manner to be described.

The cylindrical case 10 is provided at its upper end with inwardly inclined projecting strips 14 which may be projecting portions of the case 10, on which the head 15 of the doll or toy figure which is usually made of plaster, of a compressed paper mass, of porcelain or the like may be fixed. The head is hollow and is provided at its upper end with openings or slots (not shown) which are covered by the hair of the doll or by a bonnet. The head 15 serves as a sound conductor or as a sound box, as will be explained below.

The cylindrical case 10, as already mentioned, forms the body of the doll or supports the said body and is therefore so arranged that the cylinder axis is in a substantially vertical position. It is subdivided by a horizontal deck plate 20 filling the cross section and serving as a support for the tuning condenser 22, the output transformer 24 and the loudspeaker 18 the latter being supported by means of a bracket 21.

The two controls of the radio apparatus, namely the tuning condenser control and the volume control, are in this case exercised by means of two control shafts 30, 31 which are mounted in suitable bearings or holders at diametrically op-

posite points of the casing, preferably at those points which are farthest apart.

These shafts are aligned and are therefore coaxial. They project outwardly in opposite directions and are adapted for connection with a member forming the handle.

One of said shafts 30 also projects inwardly and carries a pulley 33 which, by means of a belt or a steel tape 34, drives the pulley 35 on shaft 36 of the tuning condenser 22. The pulleys may be held between brackets 37, 38 one of which may be fixed to the deck plate 20.

The second shaft 31 may be directly connected with the volume control 38 which is fixed to the casing on the inside.

As will be seen, the belt transmission serves to keep the two shafts 30, 31 aligned notwithstanding the fact that the tuning condenser is arranged on the deck plate 20 near the center. The projecting ends of said shafts form trunnions on which the arms 11, 12 of the doll or toy figure may be fixed. Preferably sleeves or disks 40 are carried on the shaft ends, filling the space between the arms 11, 12 and the body so as to improve the shape of the figure. These disks may be clutches providing a frictional load such as described in my co-pending application, Serial No. 57,996, filed November 2, 1948.

The arms 11, 12 of the doll or toy figure are fixed to said disks by means of screws or the like as shown in Figure 8. The arms may serve as a handle for adjusting the tuning of the apparatus and the volume of the tone produced.

The deck plate 20, as will be clear, bisects the case 10 so that two compartments are formed. The lower compartment is again approximately bisected in the vertical plane by means of the vertical deck plate 39. This deck plate, as seen in Figure 6, carries the sockets 41 for the tubes, and the intermediate frequency transformers as well as other components shown at 42 and 43. These components fill one-half of the lower compartment while the second half is reserved for the filters 44, the filter condensers, not shown, and for other components customarily joined to the lead wires near the sockets.

The closing plate 45 may be arranged at the lower end of the lower compartment. It may be provided with screw bolts for fixing the cylindrical body or case 10 to the chair on which the doll is seated or to the connection box 49 or to any other base supporting the doll. The connection box 49 contains the connections with the cable 48 supplying the radio apparatus with current.

As will be clear from the above description, the doll may be formed around the cylindrical case 10 or, if the doll is provided with a separate body of stiff linen, celluloid or the like, the case is inserted and is held within the said body of the doll and fixed on the chair by means of the screw bolts. The chair in this case forms the base of the radio apparatus.

The arms of the doll are then placed on the shafts 30 and 31 and are fixed on said shaft. The head of the doll is then placed on the strips 14 just above the mouth piece of the loudspeaker 18 and the radio apparatus is then ready for action. It is adjusted by turning the arms around the shaft serving as pivots.

The switch for cutting in the current may be associated, as usual, with the volume control and it is therefore operated by operating one of the arms.

It will be clear that the doll or toy figure may cover a high type of radio apparatus which is ca-

5

pable of any desired performance. The manipulation is extremely simple, while at the same time the apparatus does not in any way interfere with the design or the appearance of the doll or toy figure.

As most radio apparatus are provided with a lamp indicating that said apparatus is supplied with current, the casing may be provided with such a lamp 50 in its front portion which may be observed through some transparent portion 10 or ornament of the doll.

It will be clear that details which are not essential may be varied without departing from the essence of the invention.

Having described the invention, what is claimed 15 as new is:

1. As an article of manufacture a radio apparatus encased within the figure of a doll, comprising a vertically arranged cylindrical case having an elongated cross section, subdivided by a horizontal deck plate into an upper and lower 20 compartment, a vertical deck plate subdividing the lower compartment, a tuning condenser and a volume control arranged in the upper compartment, aligned coaxial control shafts positioned at diametrically opposite points of said casing, projecting outwardly from said casing in opposite directions, said shafts being connected with the tuning condenser and the volume control respectively, articulated arms for the doll figure 30 fixedly mounted on said shafts, said arms serving as handles for the control of the tuning condenser and of the volume control.

2. As an article of manufacture a radio apparatus encased within the figure of a doll with articulated arms, comprising a vertical cylindrical case having an elongated cross section, a horizontal deck plate, dividing the case into an upper and a lower compartment, said deck plate carrying the tuning condenser, a loudspeaker and an output transformer carried by said deck plate, 40 a vertical deck plate, subdividing the lower compartment, tube sockets and intermediate transformers supported by said vertical deck plate, aligned coaxial control shafts in the upper portion of the upper compartment, arranged at diametrically opposite points of the cylindrical case, said shafts projecting outwardly in opposite directions from the case, means for transmitting a

6

rotary motion from one of said shafts to said tuning condenser, said means including pulleys and a belt transmission, a volume control carried by the case concentrically with the control shaft in the upper compartment, seated for direct operation by the second control shaft, and means for fixing the arms of said doll figure to said shafts to serve as handles for the adjustment of the tuning condenser and volume control.

3. As an article of manufacture a radio apparatus encased within the figure of a doll, with articulated arms, comprising a vertical cylindrical casing having an elongated cross section, a horizontal deck plate, dividing the case into an upper and a lower compartment, a tuning condenser for the radio apparatus carried by said horizontal deck plate, an output transformer carried by said plate, a loudspeaker carried by said plate, arranged with its mouth piece turned upwardly and located near the upper end of the cylindrical case, a vertical deck plate, subdividing the lower compartments, tube sockets and tube held thereby carried by said vertical deck plate, intermediate transformers carried by said deck 25 plate, aligned coaxial control shafts in the upper part of the upper compartment arranged at opposite sides of said loudspeaker and at diametrically opposite points of the cylindrical casing, said shafts projecting outwardly in opposite directions, means for transmitting a rotary motion from one of said shafts to said tuning condenser, said means including pulleys and a belt, a volume control arranged coaxially with the control shafts and carried by the case, said volume control being seated coaxially with the second shaft for direct operation by the same, means to fix the articulated arms of the doll figure to said shafts to serve as handles for the adjustment of the tuning condenser and of the volume control, a hollow doll head provided with openings, arranged directly above the upwardly turned mouth piece of the loudspeaker, to act as a sound conductor channel.

4. As an article of manufacture a radio apparatus as claimed in claim 3 wherein the upper portion of the case is provided with inwardly turned strips for supporting the head of the doll.

WALTER J. WALDRON.

No references cited.